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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,623	07/16/2003	Ben-Zion Dolitzky	1662/60707	2588

26646 7590 11/13/2009
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EXAMINER

STOCKTON, LAURA LYNNE

ART UNIT	PAPER NUMBER
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1626

MAIL DATE	DELIVERY MODE
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11/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/621,623		DOLITZKY ET AL.	
	Examiner		Art Unit	
	Laura L. Stockton		1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 12, 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/12/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 11-30 are pending in the application.

Election/Restrictions

Applicant's election without traverse of Group II (claims 11-18) in the reply filed on October 28, 2005 was acknowledged in a previous Office Action. The requirement was deemed proper and therefore made FINAL in a previous Office Action.

Claims 1-10 were withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Election was made **without** traverse in the reply filed on October 28, 2005. Claims 1-10 have been cancelled per the Amendment filed January 14, 2008.

Information Disclosure Statement

The Examiner has considered the Information Disclosure Statement filed on August 12, 2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

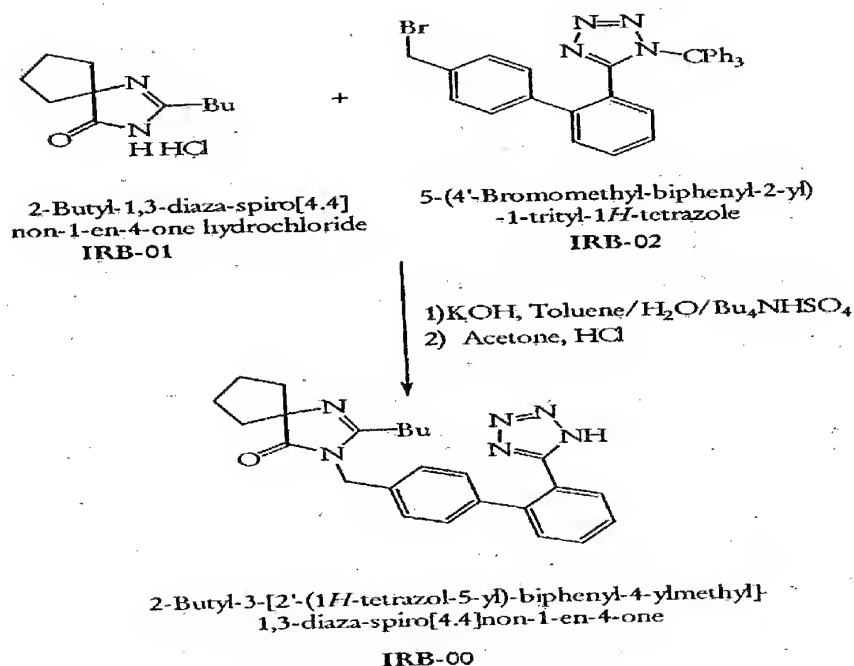
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernhart et al. {U.S. Pat. 5,270,317} in view of Anderson et al. {WO 99/38847}, Cuadro et al. {Synthetic Communications, (1991), 21(4), pages 535-544} and Alvarez-Builla et al. {Tetrahedron (1990), 46(3), pages 967-978}.

Determination of the scope and content of the prior art (MPEP §2141.01)

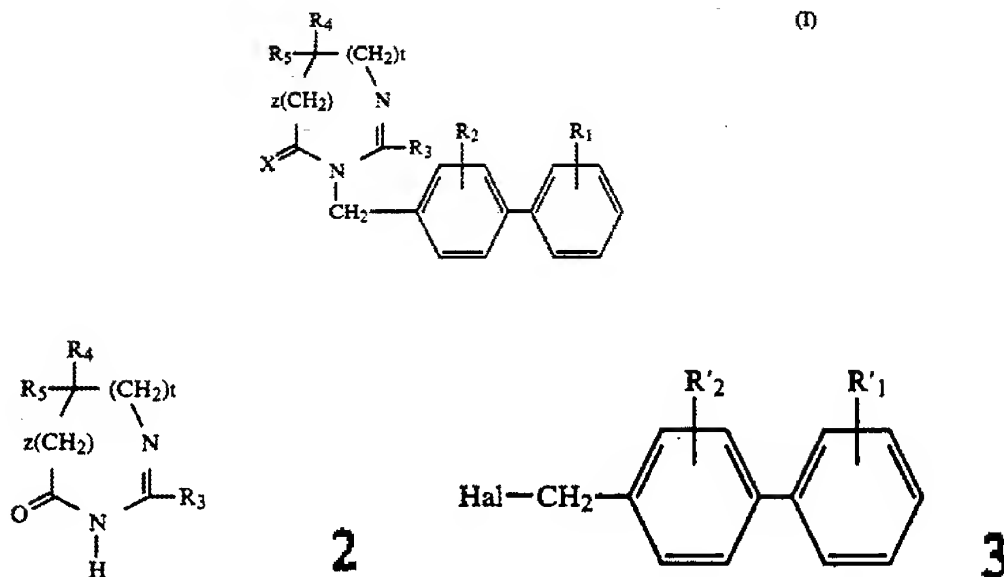
Applicant claims a process of making irbesartan by the process found in instant Figure 1 (reproduced below).

Figure 1
PTC Route to Irbesartan



Bernhart et al. (columns 1-4) teach a process of making N-substituted heterocyclic compounds of formula (I) (reproduced below) wherein a compound of formula 2

(reproduced below) is reacted with a compound of
formula 3 in columns 3-4 (reproduced below).



Note in Bernhart et al. that variable R_2 can be hydrogen and R_1 can represent tetrazolyl or cyano (column 1, lines 52-56). Also see the process in column 9, lines 54-62, the products and the processes of making Example 5A) and Example 5C) in columns 20 and 21. Bernhart et al. further teach that it is well within the skill of one skilled in the art to convert, for example, tetrazolyl protected by a trityl group or a cyano group

to a tetrazolyl group by known methods (column 9, lines 15-28).

***Ascertainment of the difference between the prior art and the claims
(MPEP §2141.02)***

Bernhart et al. do not teach the use of a phase transfer catalyst in the process. However, **Anderson et al.**, which reference Bernhart et al. on page 2, teach the use of a phase transfer catalyst in the process taught by Bernhart et al. (page 4). Anderson et al. further teach the temperature, pressure, solvents, etc. (pages 7-10). **Cuadro et al.** teach the N-alkylation of azole compounds in a biphasic system and the use of phase transfer catalysts (page 537). Cuadro et al. reference Alvarez-Builla et al. (see Reference 14 on page 543) for additional phase transfer catalyst (see the last paragraph on page 968 of Alvarez-Builla et al.).

***Finding of prima facie obviousness--rational and motivation (MPEP
§2142-2413)***

The claimed process is no more than a selective combination of prior art teachings done in a manner obvious to one of ordinary skill in the art since each step of the process appears to be relatively complete in itself and there is no indication of an interaction between steps of such a type that would lead one of ordinary skill in the art to doubt that a substitution of alternative steps known to the art could be made.

In re Mostovych, 144 USPQ 38 (1964).

One skilled in the art would thus be motivated to combine the teachings of Bernhart et al., Anderson et al., Cuadro et al. and Alvarez-Builla et al. to arrive at the instant claimed process with the expectation of obtaining Irbesartan in short duration and with increased productivity as taught by Anderson et al. (page 7, lines 27 through to page 8, lines 1-2). The instant claimed process would have been suggested to one skilled in the art and therefore, would be obvious to one skilled in the art.

Response to Arguments

Applicant's arguments filed August 12, 2009 have been fully considered. Applicant argues that one of ordinary skill in the art would have expected that the trityl group would be removed under the basic environment because it is known in the art that the trityl group can be removed under basic conditions. Applicant argues that Bernhart et al. does not teach: (1) what "the methods well known to those skilled in the art" are when R_1' is specifically a trityl-protected tetrazolyl group; (2) that the same method used when R_1' is a cyano group can be applied when R_1' is replaced with a trityl-protected tetrazolyl group; and (3) the use of a phase transfer catalyst.

In response, Bernhart et al. teach that it is well within the skill of one skilled in the art to convert, for example, tetrazolyl protected by a trityl group or a cyano group to a tetrazolyl group by known methods (column 9, lines 15-28). Bernhart et al. do teach a

method of converting the cyano group to a tetrazolyl by the use of an azide (column 9, lines 24-27). A reference need not disclose what is well known in the art. In re Myers, 161 USPQ 668, 671 (CCPA 1969).

Further, it has already been acknowledged that Bernhart et al. do not teach the use of a phase transfer catalyst. However, as also stated above, Anderson et al. reference Bernhart et al. on page 2 and teach the use of a phase transfer catalyst in the process taught by Bernhart et al. on page 4 of Anderson et al.

Applicant argues that one of ordinary skill in the art would have expected that the trityl group would be removed under the basic environment and that Ramashankar et al. {WO 02/094816} disclose the removal of the trityl group from trityl losartan on pages 3-4 by using the base potassium hydroxide in an alcohol.

Applicant's arguments and the Ramashankar et al. reference has been considered but not found persuasive. Bernhart et al. teach that the process takes place in a

basic medium (column 9, lines 53-58) and that R_1' can represent a tetrazole which is protected by a trityl group (column 9, lines 24). Therefore, it is disagreed that one of ordinary skill in the art would have expected that the trityl group would be removed under the basic environment because Bernhart et al. teach otherwise.

Applicant argues that Anderson et al. merely cite Bernhart et al. in the Background and does not teach or suggest replacing the carbonitrile group (the cyano group) with a trityl-protected tetrazole in the phase transfer catalyst reaction. In response, it is agreed that Anderson et al. do not teach replacing the carbonitrile group (the cyano group) with a trityl-protected tetrazole in the phase transfer catalyst reaction. Anderson et al. was cited to show that the improvement of the process taught by Bernhart et al. is the use of a phase transfer catalyst.

Applicant argues the teaching in Example 5B in Bernhart et al. and that Example 5B does not replace the cyano group with a trityl protected tetrazole group. In response, it is well established that consideration of a reference is not limited to the preferred embodiments or working examples, but extends to the entire disclosure for what it fairly teaches, when viewed in light of the admitted knowledge in the art, to person of ordinary skill in the art. In re Boe, 148 USPQ 507, 510 (CCPA 1966). For the reasons given above, the instant claimed invention would have been suggested to one skilled in the art and therefore, the instant claimed invention would have been obvious to one skilled in the art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura L. Stockton whose telephone number is (571) 272-0710. The examiner can normally be reached on Monday-Friday from 6:15 am to 2:45 pm. If the examiner is out of the Office, the examiner's supervisor, Joseph McKane, can be reached on (571) 272-0699.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

The Official fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

/Laura L. Stockton/
Laura L. Stockton
Primary Patent Examiner
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November 13, 2009